COMPUTER SYSTEM

A computer system for processing a program described in the machine language of a stack machine, comprising a data cache (11), an integrated register file (6), an advanced pointer stack (3), an instruction queue (5), arithmetic units (80 and 81), and a loading/storing unit (83), wherein when the instruction held in the first entry of the instruction queue (5) can be completed or has been completed, the completion pointer stack is operated so as to execute the same operation of the advanced pointer stack when the held instruction is decoded on the basis of the contents of the first entry of the instruction queue, and the first entry is eliminated from the instruction queue.